SHUAI ZHOU

Junior undergraduate student, South China University of Technology, Guangzhou, China
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RESEARCH INTERESTS

Robotics, Heuristic Search, Multi-agent System, Motion Planning

EDUCATION

SOUTH CHINA UNIVERSITY OF TECHNOLOGY Sep 2022 — Jun 2026 (Expected)
Bachelor of Engineering in Robotics, Guangzhou, China *Cumulative GPA: 3.85/4.00, Rank: 5/56*

Core curriculum: Artificial Intelligences and technologies, Robotics theory and technology, Mechanic, Introduction to Engineering, Design and Manufacture

UNIVERSITY OF CALIFORNIA, BERKELEY Aug 2023 — Dec 2023
Exchange Student, Berkeley, United States *Cumulative GPA: 4.00/4.00*

Core curriculum: Data Structures, Designing information devices and Systems I, Introduction to Solid Mechanics

ACADEMIC EXPERIENCE

CARNEGIE MELLON UNIVERSITY, ARCS Lab Apr 2025 — Present
Onsite Research Intern, Pittsburgh, United States *Supervised by Prof Jiaoyang Li*

- Research in Multi-Agent Path finding.
- Extending ideas of MAPF to Multi Arm motion planning. Developing search/learning based method.

UNIVERSITY OF CALIFORNIA, IRVINE, IDM Lab Mar 2025 — Present
Remote collaboration via RAP Lab, Irvine, United States *Collaborate with Prof Sven Koenig*

- Research in Multi-Agent Path finding with Asynchronous Actions (MAPF-AA).
- Extend LSRP to anytime planner.

SHANGHAI JIAO TONG UNIVERSITY, RAP Lab Apr 2024 — Present
Onsite Research Intern, Shanghai, China *Supervised by Prof Zhongqiang Ren*

- Research in Multi agent system & Motion planning.
- Specifically in developing planning algorithms for Multi-Agent Path finding with Asynchronous Actions (MAPF-AA).
- One paper is accepted by **AAAI 2025**.

PUBLICATIONS

LSRP*: Scalable and Anytime Planning for Multi-Agent Path Finding with Asynchronous Actions
Shuai Zhou, Shizhe Zhao, Zhongqiang Ren — **Under Review**

Loosely Synchronized Rule-Based Planning for Multi-Agent Path Finding with Asynchronous Actions
Shuai Zhou, Shizhe Zhao, Zhongqiang Ren — **In AAAI 2025**

- Main Contributions: This paper proposes a novel approach to Multi-Agent Path Finding with Asynchronous Actions, focusing on scalability over optimality. By integrating search-based (LSS) and rule-based (PIBT) planning, the proposed approach efficiently computes unbounded sub-optimal solutions for large-scale problems. Experiments demonstrate its ability to handle 10× more agents than baselines with only 25% longer makespan.

SERVICE

Reviewer: IROS 2025

SKILLS

- **OS**: Windows, Linux(Ubuntu)
- **Programming Languages**: Python, C/C++, Java, HTML,MATLAB
- **Version Control**: Git
- **Writing**: LaTeX, Office

- **Languages**: Chinese (native), English (fluent)
- **Test scores**: Gre (321), CET6 (594), CET4 (608), Duolingo (120)
- **Additional Courses**
  - CMU: 10301/601 Introduction to Machine Learning
  - CMU: 16-782 Planning and Decision-making in Robotics
  - Coursera: Robotics: Computational Motion Planning
  - Coursera: Robotics: Aerial Robotics

AWARDS

Outstanding Visiting Student Scholarship from USIEA Guangzhou, China
Awarded to the top student in the UC Berkeley Global program; received 6,000 CNY Mar 2024

Merit Student of South China University of Technology Guangzhou, China
Top student in the Robotics Engineering major, Class of 2022 Feb 2024

The Third Prize Scholarship by South China University of Technology Guangzhou, China
Top 10% of students, receiving 10,000 CNY Dec 2023

Exchange Student Scholarship from South China University of Technology Guangzhou, China
Awarded to outstanding students for overseas exchange, receiving 40,000 CNY Jul 2023

REFERENCES

Prof. Jiaoyang Li
Assistant Professor, Carnegie Mellon University
E-mail: jiaoyanl@andrew.cmu.edu, Department: Robotics Institute

Prof. Sven Koenig
Chancellor's Professor and Bren Chair, University of California, Irvine
E-mail: sven.koenig@uci.edu, Department: Donald Bren School of Information and Computer Science

Prof. Zhongqiang Ren
Assistant Professor, Shanghai Jiao Tong University
E-mail: zhongqiang.ren@sjtu.edu.cn, Department: UM-SJTU JI and Department of Automation

Dr. Shizhe Zhao
Postdoctoral, Shanghai Jiao Tong University
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